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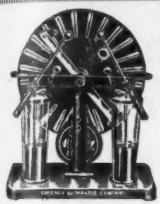

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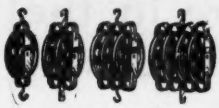

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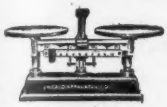

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THE ELEMENTARY SCHOOL JOURNAL

CONTINUING "THE ELEMENTARY SCHOOL TEACHER"

SEPTEMBER 1914

EDUCATIONAL NEWS AND EDITORIAL COMMENT

Change in Name and Arrangement of this Journal

The *Elementary School Teacher* contained in its early days a large amount of material which was intended to influence directly the practice of the classroom teacher in the conduct of her work with children, hence the reference in its name to the Teacher. This direct attack upon class problems was the natural beginning of a movement of reform which was intended to break up the traditions of the school of a generation ago.

As soon as the discussions of classroom methods were well under way, it became obvious that the general organization of the school was quite as significant a problem for scientific study as the conduct of each class. In fact, the elementary school of today needs to be organized rather than to be reformed. Readers of the *Elementary School Teacher* have observed for a period of years that this *Journal* has devoted itself largely to problems of general organization. Why children get behind in their grades is a problem of general organization which reaches beyond the limits of a single grade. How far industrial organization is to affect the life of the school is a problem that cannot be solved by the individual teacher, and this is one of the most urgent problems of the modern school. In view of the importance of problems of organization, it seemed wise to allow the individual classroom to sink into the background for the

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time being in the effort to develop a general science of elementary-school administration. The limited space which the editors of this *Journal* had at their disposal further contributed to the emphasis on one particular kind of material. Fortunately, the editors have now reached the point where they can begin an enlargement of the *Journal*. Eight pages will be added to each issue and it is expected that this enlargement will later be carried farther. From this time on the *Journal* will aim to co-ordinate so far as possible the interests of the individual classroom with the interests of the school as a whole.

The organization of the *Journal* will be somewhat modified in order to include material of various types. The news notes and editorial comments will continue as for the last two years. A new section will be added covering the leading books and educational articles. No attempt to review these individually will be made, but instead all of the material will be thrown together in a single discussion. A third section will be devoted to reports of experiments in classroom methods. The remainder of the *Journal* will be devoted to articles of the type which has become familiar to readers of the *Journal*.

In view of these enlargements and changes it has seemed wise to give the *Journal* a broader title so as to include all interests and express somewhat more clearly the relation of the *Journal* to the different aspects of elementary-school work.

It is appropriate also to emphasize in this connection the general fact that this *Journal* is not the organ of any single institution. The *Journal* invites the co-operation of all who are interested in the scientific organization of elementary education. Short reports covering different aspects of school work will be very welcome from every possible source. A good deal of material will be presented which issues directly from the laboratory schools of the University of Chicago and naturally the school people who have been in contact in one way or another with the department of education of the University of Chicago will contribute to both the news notes and the other departments. But it is hoped that the *Journal* may serve to stimulate in a general way a broad, scientific interest in elementary-school problems.

Federal Subsidy of Agricultural Instruction

The federal government has taken a long step in the direction of subsidizing educational activity throughout the states. The so-called Smith-Lever bill has been passed and has been approved by the President. This bill makes available in the next nine fiscal years an aggregate sum of $23,120,000 of federal funds to be expended in instruction and practical demonstrations in agriculture and home economics. The states which are to enjoy the advantage of this appropriation are called upon to make state appropriations to supplement the funds furnished by the federal government. The work is to be carried on through the Department of Agriculture and is to be done through the co-operation of the agricultural colleges in the several states. It is the expectation that the instruction thus provided will influence in a large way the elementary schools as well as the higher schools. Indeed, this fund is explicitly restricted to use for the benefit of those who are not registered in the agricultural colleges.

The entrance of the federal government on this field of general education is a mark of progress which will be observed with great interest in all parts of the country. There are those who have been opposed to the participation by the central government in any large plans of local education. The next question that is to arise is the question of a central subsidy for vocational training in the various states. A bill now pending covering this matter may be made the subject of further comment.

The Federal Government and Vocational Education

In the June number of the *Elementary School Teacher* a report was given of the work of the Commission on Vocational Education. The work of that commission resulted in the preparation of a bill which was presented to Congress by Senator Smith and is known as the Smith bill. This bill provides for a gradually increasing subsidy for vocational and agricultural education in elementary schools. The bill leaves each state free to organize this work in its own fashion, requiring only that the state shall contribute a certain amount of money to supplement the funds given by the federal government. The sum of money which the federal government is called upon by

this bill to expend is very large in the aggregate. For the year ending June 30, 1924, the total amount to be expended by the government for the conduct of the schools will be $6,000,000. An immediate appropriation of $500,000 is made available for the training of teachers. This amount is to be increased to $1,000,000 for the year ending June 30, 1919, and annually thereafter.

The bill also provides for a board to administer this fund. This board is made up of the Postmaster-General, the Secretary of the Interior, the Secretary of Agriculture, the Secretary of Commerce, and the Secretary of Labor, with the Commissioner of Education acting as the executive officer of the board.

The novel features of the bill are the large amount of federal money given to the purpose and the freedom with which the commission has dealt with the problem of internal organization of the schools. No effort has been made to force upon the different states any preconceived theories of the administration of this kind of education. This seems to the present writer to be a very wholesome and satisfactory method of dealing with the situation. If anyone is willing to have federal funds given to education at all, this seems to be the wise way of giving these funds. There will be some who will question the propriety of the entrance by the federal government upon this field of education. On the other hand, it is to be said that the government has already entered upon this field in its treatment of agricultural education and there seems to be no reason why the country at large should not interest itself in the solution of the difficult problem of industrial education.

Opposition to the Smith Bill

Violent opposition to the Smith bill has appeared from that valiant defender of his own views, Mr. H. E. Miles. Mr. Miles issues, under the clear designation of his offices as president of the Wisconsin State Board of Industrial Education and as chairman of the Committee on Industrial Education of the National Association of Manufacturers, a protest against the bill. In the first place, he thinks one of the prime faults of the bill is to be found in the fact that the bill tries to require vocational schools to employ teachers who have had experience. Mr. Miles is so thoroughly committed to taking

teachers directly from the industries by some process of careful selection which he evidently knows about that he thinks it altogether unsatisfactory that this bill should require experience in teaching. Mr. Miles of course recognizes the difficulty of getting artisans who know enough about children really to take care of the needs of children, but he provides for this difficulty in the simple words "careful selection." One needs only to go out into the industries and with some high power of selection he can get what he wants. Training is all right in the industries themselves and a foreman undoubtedly ought to be prepared for his work, but the teacher can be secured by a "careful selection."

In the second place, Mr. Miles indulges in his usual offhand statements about educational matters in a criticism of the *ex-officio* board. He says:

> The form of board proposed reduces itself to a mere *ex-officio* board having a single head of a bureau as the power. It is not fair to ask any single man to distribute money under the shadow of great names and to assume the responsibilities involved. Thirty-five states now have boards of education and all but six are of this character, consisting of the state superintendents and other state officials. These boards have been almost utterly without consequence or influence.

It is doubtful whether the country at large will be prepared to submit to Mr. Miles as chairman of the Committee on Industrial Education of the National Association of Manufacturers the final verdict with regard to the efficiency of state boards. We should all be prepared to admit that these boards have not always been of the highest degree of efficiency, but that the difficulty lies in the fact that they do not conform to the type of organization that would be acceptable to Mr. Miles, president of the Wisconsin State Board of Industrial Education, is hardly to be believed. In fact, the probabilities are that one of the difficulties in these boards has been that the people who have talked about educational matters have not been prepared to give themselves a careful training in the real characteristics of an educational situation; and it is to be suspected that even the president of the Wisconsin State Board of Industrial Education and chairman of the Committee on Industrial Education of the National Association of Manufacturers might gain something by conferring with others who have in charge the

educational organization of the country. He would then doubtless find that any appropriations supervised by the Commissioner of Education of the United States would probably be made with the advice of experts and after careful consultation with those who are trained in educational matters. It is even to be assumed that the chairman of the Committee on Industrial Education of the National Association of Manufacturers might have a voice in suggesting plans, provided these plans could be seen by the people of the country in advance and could be recognized as formulated with reference to the interests of children rather than with reference to manufacturing interests, which, on the whole, seem very often rather remote from the intellectual and moral life of these children.

The reorganization of the elementary schools has been emphatically suggested in many different quarters during the past summer.

Criticism of the Upper Grades

The superintendent of schools of the city of Chicago makes in her report a vigorous attack on the present method of conducting the upper grades of the grammar school. The following quotation indicates the type of argument which she presents against the present organization:

> Boys and girls cannot acquire by the close of the sixth grade sufficient power to meet satisfactorily the requirements of the positions into which they will strive to enter upon leaving school. It is not repeating and reviewing which makes one proficient; it is the attack made in accord with the period of growth and development that brings power and efficiency. The need of a junior high school is not urgent.
>
> There is, however, pressing necessity for a readjustment, a reorganization of the work in the grammar grades and the first and possibly the second years of the high school.
>
> The greatest drawback to the successful solution of this problem is the failure of principals and upper-grade teachers to see it, to feel the pressure of present conditions intellectually.

A committee of the Minnesota Educational Association appointed some years ago has recommended a reorganization of the

Elimination from the Elementary Course

elementary course through an elimination of a very large body of material. The report of this committee is published in *Bulletin No. 51* of the State Department of Minnesota and contains the following introductory statement:

The committee presents herewith certain recommendations for the elimination of various topics or parts of topics from the elementary curriculum. Owing to the difficulty of always stating definitely just what should be omitted, the recommendations are made affirmatively or negatively, according to the topic under consideration.

The committee began its work by sending out a letter to the 3,700 members of the Minnesota Educational Association. This letter called for suggestions along certain definite lines with reference to elimination of subject-matter in arithmetic, grammar, geography, reading and composition, and United States history. The number of replies received were as follows: 110 pertaining to arithmetic, 30 to grammar, 80 to geography, 114 to reading and composition, and 60 to United States history. The suggestions varied considerably in clearness and definiteness, but in so far as the committee has been able to determine their value, they have in the main been incorporated in this report.

The committee report then gives in detail a number of items which should be eliminated from the elementary course.

Possible Misuse of Economy in Elementary Schools

There is grave possibility that the suggestions of the superintendent of the Chicago schools and of the Minnesota committee will be misinterpreted. It may be assumed by those who read these reports that the educational world is bent merely on reducing the elementary course, whereas, in fact, it is directing its attention to the elimination of the unnecessary materials in order that it may include higher forms of training. The possibilities of a complete misunderstanding of the situation are clearly represented in the following editorial, which is clipped from the *Tribune*, of Duluth, Minnesota:

One section of the National Education Association, in session at St. Paul last week, was concerned with reducing the elementary public-school course two years. From the newspaper reports we judge this was to enable those who need to become earners to do so, and still complete a definite school course.

The public schools accept children for entrance at six years. The grades cover eight years; the high school four more. This would make the average boy or girl eighteen years old at graduation. If this could be reached at sixteen very many would complete the work who now stop at the high school because of the financial inability of their families.

A boy or girl at sixteen years should have considerable earning value. They could have, if properly trained and equipped by ten years of application, with no wasted time or effort. To reduce this elementary-school life two years is therefore important, if it can be done without material educational loss.

That this can be done is a growing conviction. One very simple way is by all-year sessions, which, if continued from the third grade, would of itself give two full years without the sacrifice of a single subject in the course of study.

Another way to gain a year is to accept children at five years instead of six. If we must have the present kindergartens, they could better take children at four years than at five, and instead of dissipating their powers of concentration and natural inclination to do something developing, by useless and largely senseless plays, they should begin the teaching of reading and numbers.

Still another way is to give vocational courses to be covered in the present ten-year period. That such courses can be framed, who can doubt? It is not complimentary to our children to hold that thinking hurts them; that mental effort is debilitating; that concentrated attention to what they can understand, intelligently grasp, and so like, is physically weakening.

The emphasis in this editorial is on mere reduction. The true emphasis is on extension. If we reduce the elementary course two years it is for the purpose of allowing children to get higher work of a type which the elementary school does not now offer.

Treatment of Abnormal Children in St. Louis

Dr. Wallin, who has for a number of years past been giving courses in the University of Pittsburgh on clinical psychology, has accepted a call to the St. Louis public schools, where he will organize a clinic for special children. For some years St. Louis has been very active in the training of defectives, and the removal of Dr. Wallin to that city means an extension and enlargement of the type of work which has been going on. Dr. Wallin will give courses of lectures on abnormal children at the Harris Teachers College and will thus spread among the teachers of the city an intelligent view of the methods of detecting abnormality and also of treating these cases. The clinic itself will be a clearing-house for the public schools and will be the instrument which will be used by the officers of that system in segregating abnormal children from the normal classes.

Politics and Education

The city of Cleveland has for some time past been confused in its school administration by political issues. The teachers decided to organize a union and the Board of Education forbade the joining of the union. The Board of Education has attempted to abolish German from the elementary school and has aroused the German population and the German teachers to a vigorous protest and to court proceedings to

prevent the taking of this step. In general, the city of Cleveland is reaping the reward of a long period of the mixture of education and politics. One might express the pious hope that the people will ultimately see the disadvantage of this mixture and clear up the situation so that they may have a system of education free from political interference. If not, the only hope that one can properly entertain is that the situation will get so utterly bad that they will have to divorce the two whether they will or not.

Summer Sessions

The superintendent of schools of Hutchinson, Kansas, has hit upon a very fortunate plan of appealing to the community in favor of a summer session with the following statement, which is quoted from the *Gazette* of that city:

The time for the making of the annual school levy is but two weeks away, and the efforts of the board and the superintendent are all directed toward gaining a new building, needed even now, and a necessity in another year, without a bond issue. It comes as good news to the taxpayers to know that the summer school, as conducted last year and during this summer, for the backward pupils or those who had been forced to lose their grades through illness or some other cause, is an actual saving of money. The five weeks' school cost less to make its pupils ready for their advanced work than carrying them through regular sessions again would cost, and the superintendent's figures show the actual amount, $11.61 for each of the 161 promoted, besides their school gain. Superintendent Hall concludes his résumé of the results and costs with the remark: "I feel that in view of these results, the summer session may now be considered an established and regular part of the Hutchinson school system." The total saving was $1,868.

Spelling

The committee of Chicago teachers and principals which undertook as its special mission the survey of the spelling in the city system has made the following interesting report, which is quoted from the *Chicago Daily Tribune:*

The committee on spelling believes that the complaint of business men that public-school graduates can't spell is unjust. It found that the vocabulary of every business is different. In asking business firms to send lists of words which it was thought the pupils of seventh and eighth grades ought to be able to spell it was found that only seven words out of 125 sent in were repeated.

"This experience should discount very considerably," reads the report, "the complaint said to emanate from the business houses concerning the inability of pupils, fresh from the schools, to spell in terms of their employer's business."

The committee prepared lists of words and submitted them to pupils of the fifth, sixth, seventh, and eighth grades. Fifth-grade pupils made an average of 74 on their list. Sixth-grade pupils averaged 82 on the same list. The average of 1,800 pupils of the seventh grade was 75 for its list, and of the same number in the eighth grade was 76.

In a group of 78 eighth-grade pupils the following words were misspelled as indicated: alleys (45), competent (40), definite (37), garage (26), engineer (8), privilege (44), changeable (11), curable (26).

In another group of 106 eighth-grade pupils the following words were misspelled by the number of pupils indicated: constitution (22), representative (67), submarine (39), necessary (35), cupful (129), chocolate (73), Mexican (27) senators (34), luxury (65).

In a group of 90 fifth-grade pupils the following words were misspelled as indicated: arithmetic (37), answered (43), erase (51), relative (58), Illinois (66), vegetable (59), truant (62).

It was shown that the children are good spellers when they are spelling in their own vocabulary. In their own compositions their spelling averaged as follows: fifth grade, 91 per cent; sixth grade, 94 per cent; seventh grade, 95 per cent; eighth grade, 97 per cent.

"In a language spelled with such absurd and contradictory forms as we find in English," reads the report, "nothing but constant drill and close attention to a reasonably limited number of words can guarantee correct spelling of one's useful vocabulary."

School Savings Banks

Several cities report at the end of the year the success of the school savings bank. Dubuque, Iowa, for example, reports that 298 students availed themselves of the opportunity of learning thrift last year by becoming depositors in the school savings bank. In West DesMoines, Iowa, over $10,000 was deposited in the state savings bank through the organization of the pupils of the schools. In Kankakee, Illinois, a formal statement of the banking activities of the schools goes to show that during the year just past more than $5,000 was deposited in the bank. Since the move began in 1907, more than $32,000 has been deposited by school children. Sterling, Illinois, reports itself as very well satisfied with the school plans for teaching the children how to save. The following statement from the *Standard*, of Sterling, Illinois, shows the attitude of the people of that city toward this enterprise:

The report of the Penny Savings Association showing such excellent work in saving by school children caused much favorable comment since last evening, and the parents were amazed at the thrift shown by the pupils during the year.

The superintendents and teachers in the schools have done much in keeping up the interest in the work and their efforts have been of great assistance to the officers of the association.

Educational Scholarships

The city of Pittsburgh is fortunate in having an educational fund which sends the teachers of its schools to various institutions where they can study during the summer. This educational commission, which has John A. Brashear as its president, awarded the following list of scholarships for the present summer. It is worthy of note that the students enjoying these scholarships have been sent in all directions and will bring back to the city of Pittsburgh the benefits of a very wide series of courses given in different parts of the country:

Commonwealth Art Colony, Boothbay Harbor	4
University of Michigan	2
North American Gymnastic Union, Indianapolis, Ind.	1
Chautauqua Institution, Chautauqua, N.Y.	10
University of Chicago	11
Columbia University	21
Cornell University	16
Dartmouth	4
Harvard University	14
Zanerian College of Penmanship, Columbus, Ohio	3
Ocean City Summer School	3
University of Pennsylvania	4
Pennsylvania State College	7
University of Vermont	4
University of Pittsburgh	4
American Institute, Northwestern University	1
University of Wisconsin	11
University of Berlin, Germany	1
University of New York	1
New York School of Fine and Applied Arts	1
Munich Trade School, Germany	1
Total number of teachers sent in 1914	124

An educational fund of this sort can be of great value to a school system. There is certainly no larger opportunity for those who are seeking ways and means of endowing American education than the creation in all of our great cities of funds that shall keep alive the teaching profession after the period of preliminary training for admission to the profession is past.

EDUCATIONAL WRITINGS

With this issue of the *Journal* a division on "Educational Writings" is inaugurated. This division will be devoted to review and comment on various types of educational literature relating to elementary schools. It happens that during the summer just past an unusually large number of new books have appeared which may be classified as general educational literature. A brief review of these books is here presented as the first instalment of this department. The *Journal* receives from educational publishers their significant books. It will welcome, however, the reactions of readers as well as publishers, and if its readers will express their views on any books which they have found to be of special use, the *Journal* will welcome the opportunity of transmitting these views to others who are looking for helpful educational discussions.

This book[1] may be divided into three sections. The first deals with the physical characteristics of the child. It reports the investigations which have been made on growth and it contains also a full account of the nervous system. Following this is a section dealing with general psychology. This section contains the usual topics that are discussed in psychology, such as instinct, habit, association, memory, attention, etc. Finally, the last division of the book, which is relatively short, gives an account of school activities, beginning with a discussion of the different periods of school life and concluding with a discussion of the psychology of all of the fundamental school processes.

The book is intended to be used as a general textbook and to this end summarizes a large part of the recent technical literature on these various subjects. It is as comprehensive a book as has lately appeared on these subjects. There are no important contributions made by the author himself except the formulation

[1] *The Mental and Physical Life of School Children.* By Peter Sandiford. Pp. 346. New York; Longmans, Green & Co.

of the results of other workers. The large emphasis which is laid upon the physical nature of the child is in a measure a departure from the conventional treatment of educational psychology and will undoubtedly be useful in calling attention to an important phase of child-study. The psychology of the second part of the book is of the familiar, conventional type. Although the treatment begins with the discussion of instinct and habit, it passes very soon into the type of association psychology which has long been familiar to English readers. The results of the child-study investigations are included as far as possible in the text, but the relation of the psychological treatment to the later discussion of school subjects is not intimate. The section on school subjects is the best brief summary of this material that has yet been prepared. This section will be found to be very useful to teachers, more useful probably than the middle section of the book, which attempts to summarize psychology.

On the whole, the book may be described as the best elementary review of this material now at hand. The book ought to take the place that was filled for a time by Kirkpatrick's *Fundamentals of Child Study*. It is more up to date than any summary of the child-study movement and contains the new material on the psychology of reading, spelling, arithmetic, and other school subjects.

Professor O'Shea of the University of Wisconsin has undertaken the editorship of a series of educational volumes which are intended to appeal to lay readers as well as to teachers. These volumes are all to be about 250 pages in length and will deal with different aspects of the school and social situation. Four volumes of this series have already appeared. One of them can be passed with a mere mention as it relates primarily to the high-school period and is likely to be of interest to elementary teachers only in so far as they are concerned with the transitions from the elementary school to the high school.[1] It ought to be remarked, however, in this connection that elementary teachers would profit by cultivating more interest in the upper schools than they usually exhibit. Mr.

[1] *The High-School Age*. By Irving King. (Childhood and Youth Series, edited by M. V. O'Shea.) Indianapolis: Bobbs-Merrill Co. Pp. 233.

King gives a brief summary of the mental and physical characteristics of adolescent youth. He discusses a number of the high-school problems, such as the difficulties which arise from outside engagements. He has some original investigations on this topic. On the whole, the volume is a very useful summary of the more elaborate discussions on the high-school period.

The second volume of the series[1] is a popular exposition of the experiments which have been performed on the learning process. Mr. Swift summarizes his own investigations and those of others, giving a number of typical learning-curves, together with a description of the experiments which were made in securing these learning-curves. He discusses also a number of the important problems of school hygiene, such as economy in learning and the best methods of memorizing and arranging materials which are to be mastered through school work.

His final chapter on "New Demands on Schools" attempts to state in a brief, popular form the significance of the general doctrine of development and variation for school work. There is a plea for recognition of individual differences and for an accommodation of the school work to the changes that have been going on in social organization.

This book exhibits the virtues and at the same time the difficulties of a series of brief, popular treatises on education. Many of the author's opinions appear to be mere assertions of individual belief because in a volume of this compass it is necessary to leave out the evidence which lies back of these views. At the same time the statement of these views undoubtedly has some value in that it will call the attention of many readers to the changes that are going forward in modern education.

The third volume of the series[2] comes from the pen of a mother who has devoted very large attention to the training of her daughter. The editor compares the book to Rousseau's *Émile*. Mrs. Stoner began preparing her child for the career which she had planned for

[1] *Learning and Doing*. By Edgar James Swift. (Childhood and Youth Series, edited by M. V. O'Shea.) Indianapolis: Bobbs-Merrill Co. Pp. 249.

[2] *Natural Education*. By Winifred Sackville Stoner. (Childhood and Youth Series, edited by M. V. O'Shea.) Indianapolis: Bobbs-Merrill Co. Pp. 295.

her by quieting her restlessness in the cradle with lines from Vergil's *Aeneid*. The child very soon accumulated so much Latin and other foreign languages that she seems to be a leader in the Esperanto movement. In fact, we are told that the eight-year-old girl gives lessons in this subject and apparently is one of the most proficient disciples of this cult. She has acquired a large mastery of numbers through various games which the mother evidently plays with her as one of the common forms of amusement. The child writes jingles and indeed has written them since she was four years old. She copies on the typewriter and writes compositions on natural objects which she observes. She is described as being unusually husky and athletic, evidently more than a match for all of the small boys in the neighborhood.

The fundamental theory on which she has been brought up is at times a little vague. In one part of the book we find Mrs. Stoner objecting to the learning of the names of all of the different capes and bays around the coast of Africa, while on another page we are assured that the child knows the names of all of the capitals of the states in the United States.

There is a good deal of quotation from various authors who have evidently been of encouragement to the mother in the work she has undertaken. On the whole, the book, like a number of others which have recently appeared, will persuade those who read it that children can accomplish a great deal more than is ordinarily expected of them in school work. Like most of the ambitious tutors of children supposed to be extremely precocious, the mother evidently regards foreign language as a matter of very large importance. One thinks of the historical examples of children who mastered long lists of foreign languages. There is relatively little in the book to show any clear appreciation of the necessity of training the child in methods of reasoning. Where the book deals briefly from time to time with such problems, there is evidence that there is no very definite notion of what reasoning consists in or how it can best be trained.

There can be no doubt that home training of this intensive type would do much to improve schools, and Mrs. Stoner's contention that the school is seriously handicapped because parents fail to

do their duty by their children will be heartily seconded by the technical reader of the book.

The fourth volume[1] reports, as does the monograph described below, a series of investigations of the methods of teaching spelling. It also presents a number of word lists which will be useful to teachers in determining the vocabulary which the child ought to acquire during his school work. The various simple rules which can be utilized in remembering the arrangement of letters in confusing words are briefly reviewed. The types of error which children commonly make are pointed out. The relative value of word lists and composition work in teaching spelling was investigated by one of the authors.

The improvement of spelling ought certainly to follow upon investigations of the type of those here recorded. One wonders how long the investigations which deal with the present form of English spelling will be necessary before it becomes apparent to everyone that a change in these matters ought to be introduced into the language as well as into school practice.

Spelling is one of the subjects in which the material is perfectly definite and capable of exact description. One hardly knows how to describe the topics in geography because they may include a great deal or they may include very little. But the list of words to be taught in spelling is capable of definite determination. Mr. Jones[2] has with great industry prepared a list for the different grades of the elementary school on the basis of compositions written by many children through a long period of years. This list he has arranged according to the various grades so that it is possible to determine from the actual practices of children in the school something of the expectation which the school should entertain regarding the vocabulary of children. Incidentally the pamphlet throws a good deal of light on the number of words used in different grades and by different individuals. The vocabulary of children in the

[1] *The Child and His Spelling.* By W. A. Cook and M. V. O'Shea. (Childhood and Youth Series, edited by M. V. O'Shea.) Indianapolis: Bobbs-Merrill Co. Pp. 282.

[2] *Concrete Investigation of the Material of English Spelling.* By W. Franklin Jones. Published by the University of South Dakota. Pp. 27.

eight grades consists of 4,532 words. When it is remembered that these are words which the children actually use and not a full list of the words which they are able to understand, we realize that the task before the elementary school is a large one. The details of the distribution of these different words are of great interest to those who have to deal with children. Perhaps the list of the 100 words most commonly misspelled in these compositions is the most interesting part of the pamphlet. The first four words in this list of 100 are "which," "their," "there," and "separate."

Mr. Jones has prepared a speller on the basis of his investigation which is published by the Capital Supply Co., Pierre, South Dakota. This book has a somewhat ambitious title, *The Spelling Problem Solved.*

One recognizes the limitation in this kind of a list since it does not include words which the children ought to have but which are not now given in the ordinary course of school life. Business words and general words may enlarge the list beyond those which Mr. Jones now has at hand. Other investigations such as this and the earlier work of Mr. Ayres, as well as the later work of Cook and O'Shea, ought shortly to realize Mr. Jones's ambition of solving some of the school's spelling problems. Whatever the addition to the list from these other sources, it is evident that Mr. Jones has attacked in a definite, empirical way one of the problems of the school curriculum. There is no reason why a number of other subjects should not be attacked with the same spirit of definiteness and finality. The topics in geography can be enumerated even if they cannot be worked out with the same degree of exactness as that exhibited here in the spelling-book.

For some time past the movement in the direction of using the schoolhouse for the general purposes of community life has been under way. Meetings of all sorts are now very common in school buildings, and the grounds of schoolhouses are often utilized for general recreation purposes. The relation thus established between the school and the community has, however, operated in the reciprocal direction of bringing to the school co-operation of various types

which in the past were not common.[1] The physicians of the city, for example, have interested themselves in the sanitary conditions in and around the school, and in the personal health of the children; the playgrounds have been enlarged; pictures and other works of art have been brought into the school because the community has come to realize the barrenness of an undecorated building.

These various forms of co-operation with the school are enumerated and described by Mrs. Cabot in a way to make it clear that the school profits very greatly by cultivating relations with the community. She points out that every school officer is besieged by people who interfere with the school unless they are given something to do, and she suggests that such people be utilized to make contributions of all sorts. "Such people," she writes, "cling like a burr; we cannot do away with them. It is a temptation to pull them off one's sleeves once." Better, however, is the plan of appealing through reports and studies to such people and thus inducing them to contribute to playgrounds, social training of children, decoration of the buildings, and improvement of the physical conditions of schools.

The first excitement which followed the description of the Montessori system has somewhat subsided. Partisan feelings with regard to the merits and demerits of this system are somewhat less pronounced than they were a year ago, and the commercial interests which control the apparatus are more reasonable. Kindergartners are seeing the advantage of adopting any suggestions which the discussion brings, while the special schools that grew out of this movement are approaching more and more in character the well-organized American schools which deal with little children. It is very interesting at this stage of the movement to have a painstaking diagnosis of the movement such as Professor Kilpatrick has worked out in this monograph.[2]

Professor Kilpatrick went to Rome for the purpose of becoming personally acquainted with the Montessori schools. He speaks,

[1] *Volunteer Help to the Schools.* By Ella Lyman Cabot. (Riverside Educational Monographs.) Boston: Houghton Mifflin Co. Pp. xi+136.

[2] *The Montessori System Examined.* By William Heard Kilpatrick. (Riverside Educational Monographs.) Boston: Houghton Mifflin Co. Pp. viii+71.

therefore, with the insight of observation as well as on the basis of a careful reading of the Montessori books.

The monograph is divided into a number of chapters which deal with the general principles advocated in the Montessori system. Professor Kilpatrick finds as a result of his analysis that the interpretation given the general doctrine of development is inadequate. He regards the doctrine of liberty as a reiteration of the principle familiar to all students of the kindergarten. Self-expression and auto-education are recognized as valid principles but the means furnished by the Montessori system for working out these principles are regarded as too limited. The exercises of practical life which the system employs are regarded as altogether beneficial. In discussing sense-training as advocated by the Montessori system, Professor Kilpatrick enters into a labored discussion of formal discipline which seems hardly in place. One theoretical position can hardly be refuted by another theoretical position. The ordinary reader will not feel that Professor Kilpatrick has contributed very much to the exposition or criticism of sensory training. There is enough independent evidence in the hands of educators to make it possible to discuss this problem of sensory training without any reference to formal discipline. Finally, Professor Kilpatrick discusses the school arts of reading, writing, and arithmetic and regards it as one of the probable contributions of the method that these arts have been undertaken at so early an age. He finds, however, that the simplicity of the Italian language makes it somewhat easier to carry on this type of training in Italy than in America and he questions the wisdom of any attempt to imitate here this phase of the work.

It is difficult to understand why any author should attempt to deal with the problem of industrial education in the elementary school unless he has some very definite and clear-cut ideas on the matter. No one has any right to discuss this problem who is not able, first of all, to determine with a good deal of definiteness the point in the elementary school at which such training should be undertaken. At the present time the secondary school is the institution commonly held responsible for industrial education. In the second place, no one has any right to talk on this topic

unless he is prepared to say with a good deal of clearness what method shall be adopted in carrying on the work.

Mr. Cole[1] has written on the problem in what must be described as a vague, general way. In the latter part of the monograph he has given one example of what might be done in the way of studying industry in the elementary school. Briefly stated, this example includes some theoretical instruction about a local industry, some observation of the plant itself, and, finally, a little constructive work which consists in making models of the devices which have been observed in the factory. All of this is to be part of a course in industry. This course is to absorb the regular manual-training work of the elementary school and is also to have some of the time now devoted to geography, reading, and the other subjects. We are confidently informed that the introduction of such a course as this will be a renovating influence to modify the spirit and character of the whole elementary work.

There are throughout the book paragraphs which criticize the present school as a school bent upon culture and not practical in its character. The manual-training movement seems to this author to be very formal and unproductive. In short, there is a wholesale criticism in all directions of everything done at the present time by the elementary school, and the remedy offered is this course in industry. Whether this work should be done in the third grade or in the seventh grade is not stated by the author. In fact, one goes through the book with a good deal of doubt as to the author's acquaintance with the difference between the third grade and the seventh grade.

Page after page of general discussion seems to indicate that the author is extraordinarily foggy in his thinking about the different processes on which he delivers final opinions. For example, on p. 46 the author is dealing in a summary way with culture. Here are a few sentences which indicate the scope and depth of the discussion.

> According to the traditional opinion, a study that is useful cannot also be cultural. Culture consists of philosophy, literature, and the fine arts.

[1] *Industrial Education in the Elementary School.* By Percival R. Cole. Boston: Houghton Mifflin Co. Pp. xviii+63.

. . . . We need a new theory of culture. The old definition may be retained—culture is the study of things worth while in themselves. It is the content, not the form, of the definition that must be changed. Things worth while in themselves include all great matters, whether useful for external ends or not. The industrial life is a great matter. It lies at the root of all civilization. It calls for the highest mental powers. It enriches the moral life with opportunities for the exercise of the economic virtues.

This eulogy of industry and its easy introduction into the group of cultural subjects is interesting; but one wonders whether executing a single process in a factory does involve the highest powers. One wonders whether the author would not have done well, before trying to persuade us in a wholesale way that industry is identical with culture, to have spent a little time in private thought distinguishing between various different kinds of industry. There are certain types of industry which are elevating; there are others which are not. If the educational world is to be persuaded to give adequate attention to industry, these distinctions must be recognized. It is not enough to dash into print with a wholesale eulogy of everything industrial. The book serves as a striking evidence of the complexity of this whole problem of dealing with industrial education. It certainly does not clear up the situation.

CLASSROOM METHODS AND DEVICES

Articles reporting concrete classroom exercises are very difficult to collect. From time to time the editors of the *Journal* have sought material of this type. They usually find themselves checked in their effort by the desire which seems to possess most people to discuss school problems in a broad, theoretical way. If a teacher has a good method of teaching nature-study or long division, he commonly feels the impulse to explain the theory of his practice and leave the reader to guess at most of the details of actual classroom work. The *Journal* hopes that it will be possible to overcome in some measure this impulse toward theory. The editors will make an earnest endeavor to get statements both of practice and of the fundamental principles which underlie practice. Materials that are available for classroom work and are to be classified under the general head of methods and devices will, therefore, be very welcome. But in each case these methods and devices should be accompanied by some statement which will make clear what is the aim of instruction.

How to Study

The difficulty which children experience in learning their lessons is very often due not so much to the subject-matter on which they are at work as to their inability to get at the meaning of what they read. My attention was drawn to this fact in connection with the geography work of the fifth grade. The weekly schedule provided six thirty-minute periods—four recitation periods and two study periods. During the recitation periods the class co-operated well, but the results from the study periods were very unsatisfactory. An analysis of the situation showed some of the difficulties to be: (1) a decided slowness in the rate of silent reading; (2) inability to select the essential and to disregard the unessential data in an assignment; (3) lack of facility in making proper use of table of contents, index, appendix, maps, etc., and (4) inability to organize data upon a single topic.

In short, the group had to be taught how to study. The whole organization of the class was accordingly turned to meet this need. The study periods for a few weeks were used for purposes calling for little initiative, but a high degree of precision, such as making maps, drawings, and written summaries of phases of the problems worked out by the class as a whole. The regular recitation periods were turned into "study" recitations with a view to training the children under supervision to study properly. The text was read silently, a paragraph at a time. At first the reading was made definite by requiring the children to find the answer to specific questions.

It was noted at once that the rate of reading varied considerably. Furthermore, it was noted that the fastest readers grasped the thought of the paragraph more frequently than the slower ones. The latter constantly pleaded for oral reading, saying, "We can understand it better." The slow readers were stimulated to read more rapidly. By gradually decreasing the time allowed, the slow readers were helped to increase their speed and with it their ability to get the thought.

Ability to organize material was cultivated as follows: At the beginning of the lesson the main topic of the problem being considered was placed on the board. As each paragraph was studied and discussed the results were summarized and placed as subtopics under the main topic. For further training in arrangement of materials the tables of contents and the indexes of various supplementary readers were critically studied.

Training was also given in the collection of new material. Newspaper clippings and magazine articles served to elaborate or explain or illustrate topics inadequately treated in the text. In using this latter type of material it was not always possible to have duplicate copies, but by giving out different articles upon the same general topic the pupils reading silently were forced to study independently each paragraph and then asked to state to the class what the clipping contributed to the problem under discussion. This information was discussed and sometimes questioned by the other members of the class. If after re-reading the passage the pupil still made the same interpretation, the passage was read aloud.

Not infrequently at such times it was found that the dictionary was needed as the court of last resort. Occasionally inaccuracies were found and many facts in supplementary readers were found to be out of date.

As the class gained in ability to study independently, the study periods were used for gathering information and the recitation periods became more and more a time for bringing together ideas for comparison, correction, and organization into a final solution of the problems relating to the study.

KATHARINE MCLAUGHLIN
UNIVERSITY ELEMENTARY SCHOOL

ON PREPARING TO WRITE A LETTER

Maria intended a letter to write,
But could not begin (as she thought) to indite,
So went to her mother with pencil and slate
Containing "Dear Sister," and also a date.

"With nothing to say, my dear girl, do not think
Of wasting your time over paper and ink;
But certainly this is an excellent way,
To try with your slate to find something to say.

"I will give you a rule," said her mother, "my dear,
Just think for a moment your sister is here,
And what would you tell her? Consider, and then,
Though silent your tongue, you can speak with your pen."

ELIZABETH TURNER
(*English Book for Children*)

FORMAL LANGUAGE TRAINING IN THE PRIMARY GRADES

It is not difficult to get teachers to admit that forms of language are important; that they should be fixed in the pupil's mind and habits as early as is possible; but the questions with most teachers are: What forms shall be fixed? How can the end desired be attained?

The answer to the first question can be found in local conditions. An investigation held in a western city a few years ago revealed

the following facts: Practically one-half of the errors of speech were those of verb-forms; one-half of the verb-form errors arose from confusing past tense and perfect participle; about one-fifth of the errors were due to misuse of pronouns; double negatives, adverbial errors, and even colloquialisms were relatively inconspicuous in the sum total of errors. Why one class of errors should be so pronouncedly greater in number than the other class is evident when we reflect upon the constant use we make of the one class of words. Could not a teacher, however, in order to satisfy herself respecting the right use of the pupils' time, make just such a classified list of errors among her pupils; could she not quickly discover whether it is the verb-form or the colloquialism that is most stubborn, and could she not decide which verb-form or which colloquialism she should most vigorously attack? No teacher can take a list of general errors made out for another locality and do the most effective work. A special study of her own field not only informs her at what she should aim, but it also assists her to do the aiming. Success here, as elsewhere, demands its price.

When the errors have been discovered the question arises, What method can be adopted to overcome these errors? Doubtless there are many devices which could be employed. One device which has proved very successful is the language game. In it the child is wholly unconscious of the ultimate aim of the teacher, though fully aware of the fact that a certain form must be used in order that the game be won. The teacher, however, is more successful with results than if she were to explain her intentions. She secures the functioning of language at the time when it is needed. The drill is not isolated; it is interesting on account of the activity; repetition is called forth by a natural situation, and the desired expression is in the focus of attention.

GAMES AND EXERCISES FOR USING VERB-FORMS CORRECTLY

WHAT I SAW

Leader stands in front of room and calls child's name. Class says, "Go to the window and you will see while we are counting, 'one, two, three.'" Child goes to the window, looks out, then turns and names things, e.g., "I saw a house, some pretty trees, and a man."

Should the incorrect form be used, the leader says, "Wrong," and calls another child to the window. The game is varied by, "Tell what you see," or "Tell what you have seen."

WHAT HE DID

Leader calls child's name and says, "Do three things." The child obeys. Leader says, "What did John do, Mary?" Mary answers, "John jumped, hopped, and ran."

WHO DID IT?

Leader says, "Follow me, John." John does as leader says. The leader says to third child, "Who did it?" [Who is doing it, or has done it?] Third child answers, "You and John did it." [Are doing it, or have done it.] Third child follows John, the new leader, who performs another act. Leader asks fourth child, "Who did it?" [Varied.] Fourth child answers, "You, John, and — did it." [Varied.]

The game continues by each child who answers correctly joining the procession and following the leaders. The "you" must be put in the right place, the children must be named in the order of their standing in line, the proper verb-form must be used, and the "and" must be used correctly before the child is entitled to join the procession. Naturally this answer must be given very quickly, else the march will seem to be more of a funeral than a game.

The foregoing devices may suggest others for the forms of "to go, "to be," "to have," "to come," "to give," "to take," "to throw," "to ride," "to ring," "to sing," "to choose," "to freeze," which seem to be the most troublesome verbs.

MAY

Children are told to think of any animal which they may wish to represent.
First child: "May I be a bird?"
Leader: "You may." [Child flies around the room.]
Second child: "May I be a frog?"
Leader: "You may." [Child hops.]
All of the children are finally engaged in some action.
Leader: "You may all be children." [Seats.]

CAN

This game is played as the previous ones, only child asks, "Can I be a frog," "bird," etc., and leader answers, "We shall see if you can," etc.; "We shall see if we can all be children." [Seats.]

GAMES AND EXERCISES FOR USING PRONOUNS CORRECTLY

YOU AND I SHALL DANCE TOGETHER

Children in a circle. Leader in the center goes up to child and bows. They both say, "You and I shall dance together." They dance around circle with piano accompaniment, after which each one goes up to another child and

says, "Dance with him [her] and me." All four then say, "You and I shall dance together." Choices are made until all of the children are dancing.

WORDS IN SERIES

Leader: "Tell three things that you can do, and do them."

Child: "I can mark on the blackboard, run around the room, and sing." [Child does the three things.]

Leader: "Name three things in the front of this room." [Chair, picture, *and* chalk tray.]

Leader: "I am thinking of something in this room that is long and light brown. You may guess three things." [Is it the piano, the window shade, *or* the window stick?]

Leader: "Name as many things as you can think of. Use 'and' before the last one." This may be turned into a contest.

DESCRIPTION. ADJECTIVES IN SERIES

Teacher holds up picture of fruit or vegetable (though the real thing is preferable). One child uses an adjective to describe it, e.g., "That apple is red." Another child takes it up and adds another word to describe it, e.g., "That apple is red and round." The game stops when some child fails to find a descriptive word. The sentence which has "and" incorrectly used is not counted in the game.

The games should, of course, be quick and full of life. Those who are slow in responding or who respond incorrectly should be penalized by being made to wait for another turn. These illustrations will serve only as suggestions, not as cut-and-dried devices.

Before leaving the subject of formal language work, however, it is impossible to forego making other suggestions, more specific in their application.

1. Make a list of errors of speech common among the pupils. Add to it as incorrect forms appear.

2. Concentrate upon certain types of errors until they are fairly well corrected.

3. When working with difficult forms, allow several sentences containing the correct form to remain upon the board, e.g., "The little boy doesn't need a sweater" [*doesn't*].

4. Do not display the incorrect forms to the children.

5. In fixing correct forms, have some studied and some unstudied dictations.

6. Have children repeat the dictated sentences, sometimes singly and sometimes in concert.

7. Remember that writing the correct form does not fix the speaking habit.

8. Be systematic in planning oral exercises to overcome faults on the list.
9. Make the exercises short and lively—about five minutes in length.

MATTIE LOUISE HATCHER

KENTUCKY STATE NORMAL SCHOOL
BOWLING GREEN

RATIONAL PRACTICE IN WRITING

It is a matter of common observation in the teaching of writing that the greatest retarding factors are (1) irrational practice, (2) the absence of a critical standard on the part of both teacher and pupils, and (3) the monotony that inevitably arises in connection with routine work. The following analysis of the common defects of writing and their respective causes is an attempt to apply some of the principles of the psychology of practice to the problems of writing. By being taught to recognize the defects of writing and to discover the causes, the pupil develops a critical standard for judging his own work and that of other members of his class, and he becomes interested in his progress, for he can understand why he is or is not succeeding. As a result monotony is minimized, because practice becomes a rational process.

DEFECT	CAUSE
Too much slant	1. Writing arm too near the body. 2. Thumb too stiff. 3. Point of nib too far from fingers. 4. Paper in wrong position. 5. Stroke in wrong direction.
Writing too straight	1. Arm too far from body. 2. Fingers too near nib. 3. Index finger alone guiding pen. 4. Incorrect position of paper.
Writing too heavy	1. Index finger pressing too heavily. 2. Using worn pen. 3. Penholder of small diameter.
Writing too light	1. Pen held too obliquely or too straight. 2. Eyelet of pen turned to side. 3. Penholder of too large diameter.
Writing too angular	1. Thumb too stiff. 2. Penholder too lightly held. 3. Movement too slow.

DEFECT	CAUSE
Writing too irregular	1. Lack of freedom of movement. 2. Movement of hand too slow. 3. Pen-gripping. 4. Incorrect or uncomfortable position.
Spacing too wide	1. Pen progresses too fast to right. 2. Too much lateral motion.

W. C. REAVIS

PIERRE LACLEDE SCHOOL
ST. LOUIS, MO.

A MAP OF THE UNITED STATES

In 1904, when visiting the World's Exposition at St. Louis, I was very much interested in a miniature exhibit of the irrigated gardens of the West. People generally are attracted to large things worked out on a small scale. At any rate, the beautifully laid-out fields and gardens growing in actual soil, showing the irrigation ditches, made such an impression on my mind that some years afterward, in searching for a way to present a study of the United States to a sixth grade in the public schools, the thought came to me, why not plan the United States as I had seen the irrigated western lands depicted? I did so, and the method worked out very successfully. I had in mind a general purpose, but having then had very little experience in teaching, I was not able to develop it in the organized way that I have done this year, working with a smaller group of children and having more conveniences in equipment. The class of this year, however, was composed of low-fifth-grade children instead of sixth.

When we began our study of the United States this year I told the class just what we were going to do after we had finished the subject. I described to them fully the plan of procedure, and told them that as a result of our study we should make a real map of the United States in soil, one large enough to show everything of importance that grows in our country and to indicate all the leading industries in some way.

From the first they had no trouble in picturing the map and were delighted with the plan. All the year they had wanted to give a play in connection with their Roman history and as I knew

it would be impossible to work up the play and the map both, I was somewhat worried over the course I should take in persuading them to give up the play; but as soon as they understood the map project they voted unanimously to work that up instead of the play. This of course meant the centering of the geography work around this unit for the entire second semester of the year. Five thirty-minute periods a week were given to geography and during the last three weeks of the semester I allowed the children to take the study period each day, which was also thirty minutes, to work on the map.

From the beginning everything was done with reference to the map. We worked on the general shape, outline, and physical characteristics with the idea of modeling them in soil. The climate, highlands and lowlands, the location of the important rivers, and the Great Lakes were studied with interest because everyone in the room had to have a sufficient knowledge of these points to be able actually to help in the formation of a model of our country. After they had worked at their seats with relief and physical maps before them, and had taken part in general discussions of the physical characteristics, they went to the blackboard and drew the map of United States, showing the mountains and lowlands in relief. Drill in this was continued until the map was drawn from memory.

Next came a study of the different industries, special studies being made of the different regions of the United States where each industry is most fully developed. This work included a review of place geography.

We first took up agriculture and grazing. This included a study of cotton, tobacco, peanuts, sugar-cane, rice, corn, and wheat as the important crops. The study involved a detailed account of the conditions necessary for growth and all the stages from the planting to the manufactured product. Then specimens of grains and the finished product were examined; pictures were used showing the different processes of harvesting and manufacturing, and the children were encouraged to look up different topics at home or in the library at school and make reports on them. One little girl who used her father's new set of *Britannica* was

one of the leaders in giving outside information. One of the boys, rather enviously, said, "Well, no wonder she knows so much about sugar-cane, she looks up everything at home." I asked, "Can't you look up things too?" The next day he came to school and proudly announced that he had been reading a lot about sugar-cane that Ellen hadn't told and wanted to give his report to the class. So the spirit of investigation grew through social emulation and natural interest in the products under discussion, and I am sure that eighth-grade children could not have gone at things with any better attitude of research than did these fifth-grade children when they wanted to find out about geographical facts with a definite purpose in mind. One child, who was on the Grazing Committee and had to place the tiny animals in the states where they belonged to show the great grazing-areas, brought to me one morning several pages of statistics which she had copied from the agricultural bulletin at home, showing the number of horses, cows, sheep, and mules in each state of the Union.

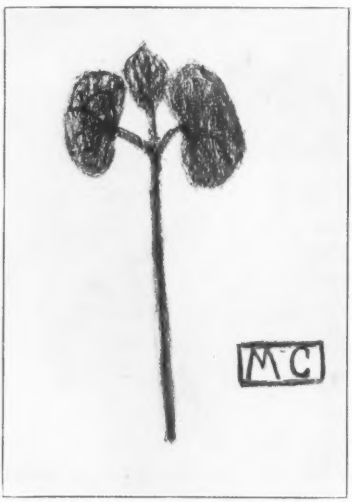
Why should not children of this age know facts definitely? They should get a correct knowledge of the resources of our country and I think the fifth grade is not too soon to give them this exact information. This does not mean that they must learn these statistics, but they should be able to understand them, and so be capable of judging the relative wealth of our country. The members of this class had a much clearer knowledge of the distribution of live stock in the different sections after hearing this report and helping to place the models where they belonged than if they had read monotonously in their geographies about grazing. It was knowledge put to a definite use immediately upon acquisition.

After the topics were read and discussed sufficiently, the children were given small maps of the United States and asked to color certain areas to show the greatest wheat-growing regions, corn regions, sugar-cane regions, etc. This was done to test their knowledge of the previous discussions, and, of course, with no assistance from maps or books. During this period of study I told them that when we were ready to make the real map certain committees would be appointed to show the different industries

on the map, and that these committees must not only be able to work out the representations of their industries, but they must also be able to tell everything about each industry.

Various topics were used for the basis of composition work, and since the children were studying them with a definite purpose in mind, they wrote with the real interest that comes when there is something to say. At this time, when we were discussing the

PEANUTS



COTTON

different agricultural products, the class planted several window-boxes with sugar-cane, cotton, peanuts, grapefruit, and lemons. These were studied and watched during their growth, drawings were made of them, and compositions were written about them. The following are types of compositions which were written by the class a few weeks after the window-boxes were planted. This was almost a month before the map was begun. The purpose of these compositions was to get from the children expressions concerning their observations of the growth of the plants, rather than stories of the industries involved.

DOROTHY May 1, 1914

PEANUTS

Ronnoc and Norris planted peanuts on April 10, 1914. We will transplant them for our map around Virginia and the Carolina's. Today they are about $2\frac{1}{2}$ inches high. An acre sometimes produces from twenty to one hundred bushels. Oil is sometimes made from the peanut. When they come up they open up in the middle. They were planted about one inch deep. Norfolk is the biggest port for shipping them.

ELIZABETH April 29, 1914

COTTON

Dorothy and Ellen planted the cotton for our soil map April 10, 1914. In about three weeks it has grown $2\frac{1}{2}$ inches to $3\frac{3}{4}$ inches. It is grown mostly in Texas and around the Gulf States. Cotton is so important that if all the gold which is mined in one year from all over the world was stacked up in a pile and all the cotton that we ship to Europe in one year was stacked up beside it the cotton would be worth more than the gold.

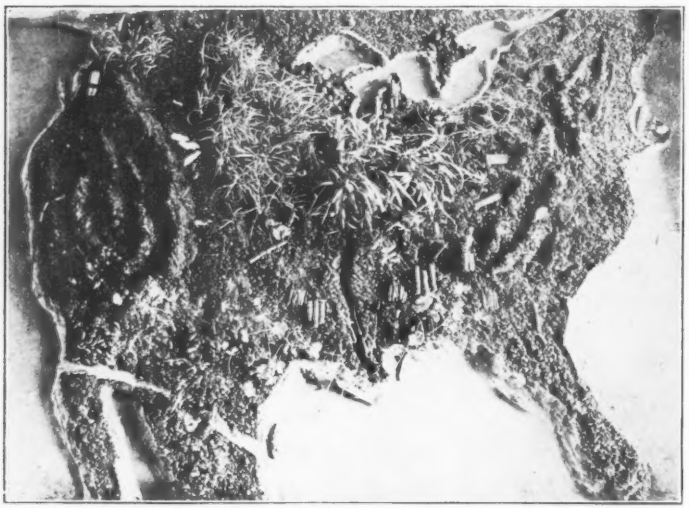
SORGHUM

We thought at first that we might have to transplant these window-box plants to the soil map, but as a matter of fact we were able to begin with all the crops from the seeds. Indeed, most of the plants grew so fast that we had to harvest and replant them three times in the three and a half weeks of the existence of the map. We had to use sorghum seed instead of the real sugar-cane, which was a great trial to the children, necessitating constant explanations and apologies when they were pointing out the sugar-cane region to visitors. The corn also was a source of regret to them because it insisted on growing so fast that most of the time it was higher than the mountains.

It was not possible to include everything on the map. We had ordered it made as large a size as could be accommodated in the

schoolroom, but still many facts had to be indicated in relation to those industries which were really worked out. For instance, most of the big cities had to be located and discussed with reference to whatever industry was going on about them, as Minneapolis in the wheat region, and New Orleans in the cotton region.

Mining and manufacturing considered in relation to the map were taken up next. Different specimens of ores were brought by the children and exhibited; iron in the various stages of manufacture was brought from the museum, and pictures of mining



camps and mining processes were studied. Carpenter's *Geographical Reader of North America* was used as a text for the whole study, and, as before, the children were asked to look up different topics and give to the class a report of what they had read. In indicating the industry on the soil map, iron ore was placed in Tennessee, Alabama, Georgia, Pennsylvania, and around Lake Superior; coal in the Appalachian Mountains, Indiana, and Illinois; gold in California and Colorado, and silver in Colorado and Utah.

The lumbering industry was one of the most absorbing topics studied. Two of the pupils whose fathers were engaged in that

business each brought about fifteen specimens of wood. Of course they were able to supplement the study with many interesting facts told them by their fathers. These two pupils were placed on a committee to work out the lumber industry on the map. They placed groves of tiny pine trees to show the pine forests and had minute chips cut from their samples of wood which were labelled and set in the places where they were supposed to grow. Then they showed the lumber camps by placing in the North small sleds filled with little sticks cut just like lumber, and in the South little wagons of lumber drawn by horses. Although I made no conscious effort to have the pupils study very many of the different trees, it was surprising to see how quickly they learned to recognize these from the specimens brought. We had a map made indicating in different colors the various vegetation belts of the United States and where the important trees were found. This was hung on the wall where it could conveniently be seen by the children. They would examine the samples of wood which were marked with the names of the trees they represented, and they would go to the map to see where each tree grew; and as a result, when the woods were placed on the map every child in the room knew in what state each grew, and was eager to display this knowledge. It was not at all surprising that the lumbering industry was one of the favorite topics for composition work chosen by the class.

The study of commerce had to be taken up with the study of the industries. Small boats were brought and placed at points on the water to show the big shipping ports. Of course, in telling about these ports each one had to know why it was important. Several railroad lines were represented by toy trains—the Illinois Central, the New York Central, the Florida East Coast, and the Southern Pacific.

The fisheries along the New England and eastern coasts were studied, also the salmon industry on the northwestern coast. The different methods of fishing were discussed—the trawl, the seine, and the hand line. This industry was not as well indicated on the map as some of the others. A small basket of fish was set at Cape Cod to show the fishing along that coast.

I have gone ahead of my point and in discussing the preparation of the map I have at times mentioned what we actually did after the study was finished. This has seemed necessary to get the connection between the study of the subject-matter and its application. When we had finished the investigating period of our study we were ready for the final result, which was the testing of the knowledge and ability of the pupils to put into practice what they had learned.

We decided to use for the map a zinc pan seven by five feet by six inches deep which we had made to order. It occupied the middle of the schoolroom, the children's desks being grouped around it. Needless to say, it was the center of attraction. In fact, from the time the map was first mentioned, life for the children seemed to be one series of exciting and eventful happenings. When the pan was brought into the room it was hard to act as if school were an ordinary affair; when the soil was carried in by the janitors and dumped into the pan every child in the room begged to be one of the first to begin work.

The first thing was to clear the dirt of all foreign particles and then to shape the country. This took three or four days. Everyone in the room was allowed to help. Some parts of the coast were extremely difficult to outline correctly. I allowed the children to work without help and then to compare what they had done with a map and to correct the errors. The Great Lakes caused them more trouble than any other thing, unless it was the New England coast; the former took at least ten trials. I looked for signs of discouragement and loss of interest, but none came; some child was always ready and eager to try where others had failed. They came to school at eight o'clock in the morning, were most unwilling to leave at recess or noon, and would not go home in the afternoon until I compelled them to do so by locking up the room.

When the shape was at last completed, clay was used to bank in the coasts and to form the basins for the Great Lakes. Of course water had to be put in the Pacific and Atlantic Oceans and the Great Lakes; this was one of the most important things to be done. In making the mountains the results of the careful map work were

shown in getting the relative heights and directions. The Great Basin took some time. What was most pleasing was to see the attitude which the children took in regard to different questions which were discussed. It was no uncommon thing for one child to criticize some detail of another's work and then to secure a proof of his statement from some atlas or book.

Then I divided the class into sections or committees to work out the different industries. It was understood, however, that

everyone in the room should contribute in any way he could to everything that was needed. The Agricultural Committee planted the crops: corn, wheat, cotton, tobacco, rice, grapefruit, oranges, lemons, and grass for the cattle to graze upon. The morning after the seeds were planted, almost every child in the room asked me the same question on entering: "Well, are they up yet?" They came up all too soon; in a week's time the corn was higher than the mountains, and had to be pulled up and replanted.

The tiny animals were brought and put in their appropriate places by the Grazing Committee. The stockyards were constructed to represent Chicago; there was an automobile for Detroit,

and a basket of apples in New York to show the fruit district there; the lumber camps were set up; the arid regions of the West and Southwest were shown by the sandy stretches of country covered with cacti; the lofty mountains with their snow-covered summits (salt-covered) stood tall and imposing; the minerals were deposited; derricks were constructed showing oil deposits, and gas wells were shown by tall escapes of clay; bananas, grapefruit, and lemons were growing in Florida and California; boats were sailing on the Great Lakes and ocean steamers were leaving the big ports; even the tiny cannon were on the border pointing toward Mexico—the United States was a real country to the children and geography was the easiest of all subjects to teach.

It is unnecessary to say anything more about the interest aroused by the method of presentation. I had live children with whom to work, and I know the results obtained are permanent.

Another important outcome of this work was the spirit of investigation and research which it fostered: the children saw the necessity of careful study and of testing the results of that study. They had a reason for finding out facts and a real use to make of them.

It was a tragic moment when the time came for the janitor to remove the map so that the room could be used for summer school. The children insisted on keeping it in the room until the last minute. Finally everything was taken from the surface and the soil and water were being removed: there was a dead silence in the room save for the creaking of the pan and the shoveling of the dirt—it was a sad and serious moment. Suddenly the stillness was broken by a small voice whose owner had been very much interested in the Norse stories we had just finished: "Miss Storm, this is the twilight of the gods!"

Here are some compositions written about the various industries and the making of the map. All the written work presented is shown just as it was when handed in by the children. There has been no attempt to correct mistakes in spelling or punctuation. The children were allowed to look up the spelling of difficult words in their geographies, and in instances where words could not be found they were written on the blackboard.

5 B GEOGRAPHY

ELLEN June 3, 1914

GRAZING COMMITTEE

Our grade the 5 B class had studied the United States this year and we made a map of the United States in soil.

I was on the grazing committee and I looked up the states where the different animals were raised in a book of the Agricultural Bauea and found that Texas raised one million four hundred and thirteen swine. Illinois one million five hundred and ninty five horses. And Wyoming five million eight hundred and eighty five sheep.

I placed the little animals which were only one inch high in the states just named and learned them so I could explane it to visitors.

Some of the otheres childern helped me. Martha and Norris gave me some tiny animals which I also placed in the map.

5 B GEOGRAPHY

KENNETH U.E.S.

MINING

We made a soil map of the United States. I was on the mining committee and I put some iron in the Lake Superior reigon, in Sout Carolina and Pennsylvaina. I also put some gold in colorado and California. I put some coal in Pennysvania, Indiana, North and South Carolina, New York and Nebraska. I put some copper in the Kewahnee peninsula. I put some zink in Missouri also.

5 B GEOGRAPHY

WARREN University Elementary School

OUR SOIL MAP

We have been studying the United States in Geography and our teacher sugested that we make a soil map of the United States.

We had the janitors put the soil in a pan which we had made seven by five feet, and we started to model the map. We all helped to model it. When we got the shape the best we could we put clay in little strips around the shape so that the water when put in the oceans would not swamp the soil. We had a lot of trouble with Maine and the Great Lakes. Miss Storm did not help us but told us whether the shape was good or not. She told us the Great Lakes were not good. We tried again and again until we got the shape to suit us. Then we made the Apalachian mountains and the Rocky Mountains. Then we put salt on them to repersent snow. And then we put the water in the ocean and Great Lakes. We put the little trains to show the important railroad centers and boats to show the transportation all over the United States coast. New York is a great apple region so we put apples there. And fish on Cape Cod to repersent the fishing the fishing Industry. We also put cactus in Texas and Florida and Wherever it grows. We thought it would be

best to have water in the Mississippi River so we put in clay. But we found it better not to have it so we put in silver paper.

NORRIS U.E.S.

LUMBERING IN OUR SOIL MAP

Our roum in Geography had been studying the United States. Our teacher promised us we could make a map of it in soil so we did. We had two or three pans but none were of good size. Finally we had a good zinc pan made. Then we modeled it and put in the different industries.

Elizabeth and I were on the lumber comittee She got some little pieces of lumber and so did I, I got some yellow pine and put it where it should be which is in Georga, Mississippi and Arkanses. I got some basswood, maple, aspen, chestnut, spruce, beech, Ash, Tamarock, birch, Oak and White and Northern pine. In the central states there are white, black and Red Oaks cherry, elms and hickory trees. In the south yellow pine, cypress, cedars, gums and Oak. In the west fir, balsom, spruce and western hemlock. I got a tiny wagon and put lumber in it and put it in washington to show the lumber there. I put a small sleigh in Michigan filled with lumber and a wagon in the south filled with yellow pine for the pine region and some yellow pine logs in the south.

ELIZABETH June 3, 1914

OUR SOIL MAP

Our grade the 5 B class has worked very hard in geography and at the end of school we made a soil map of the United States showing the different industries in these states. All most every one has brought and done something for it. We planted corn where most corn is raised in Illinois, Indiana, Iowa Nebraska and Kansas. We put the Wheat where most of it is raised in North and South Dakota and Minnesota. Then we planted cotton, sugar cane, tobacco and rice. We also planted some trees: orange, lemon and grapefruit trees. Beatrice made little bananas out of yellow clay and laid them in Florida and California We put cacti where they are found Norris brought a basket of apples and fish. We put but the apples in New York and the fish in Cape Cod to show the fishing industry. First the jainitor put a lot of soil in a little pan which was very much to little. We then had a lot of trouble in getting a large enough pan. At last we had one made which was 7 feet by 5 feet and 6 inches deep. We then modeled our map. We had a lot of trouble with Maine and the Great Lakes. We put salt on the mountains so as to make them look as if snow was on the top of them. We have the stockyards in Chicago and we put little ships to show where the most commerce is. We have little trains scattered over the United States they are the Florida East Coast, Illinois central and the northern Pacific railroads. There are little lumbering wagons and of course we have water in the two ocean and the Gulf of Mexico. We have little canons on the border to procted us from Mexico.

GRACE STORM

UNIVERSITY OF CHICAGO ELEMENTARY SCHOOL

THE SCHOOL SURVEY: FINDING STANDARDS OF CURRENT PRACTICE WITH WHICH TO MEASURE ONE'S OWN SCHOOLS

JOHN FRANKLIN BOBBITT[1]
University of Chicago

The superintendent of schools in a certain city found that his schools were unable to attract the quality of teachers that he wished to employ. He found also that the city was unable to hold many of its best teachers. They were continually resigning and going to cities that placed a higher valuation upon their services. He was continually being compelled to accept inferior teachers, to expend an undue proportion of time in getting them into shape for efficient work, only to find that a large portion of those that became efficient moved on to other cities, leaving the poorer quality of teachers for his service. The harder he worked to bring his teachers up to high standards of teaching ability, the sooner were they ready to leave him, and the sooner had he to begin the work over again with another batch of inferior material. The city could not hope to have effective teaching so long as this was the situation.

He asked the board to raise the general schedule of salaries. They replied that they raised many teachers' salaries every year; that they seemed to be always raising teachers' salaries. If they were unable to hold the teachers, this was simply due to the migratory nature of the teaching profession. In the nature of the case, teachers move about from city to city, and it is looked upon as being best for all concerned. In their opinions teachers' salaries were as high in their city as in other cities of their class. Moreover here was teacher A in their city receiving a full two hundred dollars more than teacher B over in their neighbor city

[1] The writer is indebted to Mr. E. G. Walker and Mr. E. C. Stopher for most of the computations, and to Mr. Harry Fultz for the graphical representation.

with whom one of them was acquainted; so if anything they were paying higher salaries than their neighbors.

Now most school board members are honest, well-meaning men; but, like the rest of us, they find it impossible to think clearly and to judge rightly on any question without a proper supply of the facts that bear upon the situation in hand. Like everybody else, they cannot think until they have the raw materials of thought. Now it is the business of the superintendent to supply the board in generous measure with these raw materials of thought. He must supply something more than his mere opinions, however; it must be an array of incontestible objective evidence. Moreover, it must not be presented in crude undigested form. It must be so assembled and organized that the meaning lies clearly upon the surface. So variable are the educational conditions concerned in the discussion of any problem that it is usually necessary to have a rather large quantity of facts; yet the whole must be so presented that the full significance of all of it, and of every part of it, can be taken in at a glance, and used as the basis of thought, discussion, and ultimate judgment.

The purpose of this article is to show the kind of facts that a superintendent situated as the one mentioned above should gather, and ways in which he might organize them in order to show the board the relative position of their city.

For this purpose the superintendent needs facts from many cities of the class to which his city belongs. Since conditions in different states vary, and teachers easily travel across state lines, the examples should be drawn from many states. The group of states must not be too dissimilar, however, in educational conditions. A superintendent in a northern city in the Middle West, for example, would best not include the states of the South. He possibly should not include cities west of the Rockies, owing to the greatly different economic conditions in those regions. For his purposes cities in the northern states east of the Rockies would constitute a reasonably homogeneous group.

In doing the work, one must at every stage keep in mind all the *purposes*. One of the purposes is always the finding of norms of current practice, applicable to his city for the immediate purposes

of administration. Since educational standards in the South are of a different type from those of the North, salary conditions there also are of a different type, and salary practice in that region cannot be employed for finding the standards of practice for the northern states. In setting up norms of salary practice, the superintendent must consider only cities in that part of the country where the general educational standards are of relatively the same level with those of his own city.

Salary facts ready for the superintendent's use are presented in the recent National Education Association bulletin published by the United States Commissioner of Education entitled *The Tangible Rewards of Teaching*. This presents the salaries of all teachers in most cities of the country of 5,000 population and over. The facts are classified by cities, in each case giving the number of teachers receiving each grade of salary It is an array of crude data classified only for the convenience of publication. It is not digested and organized for the superintendent's use. One cannot get from the bulletin norms of practice on the basis of which to judge one's city. The averages as given include cities in all parts of the country, and are not, therefore, applicable to any part of the country. The bulletin does, however, provide the city superintendent with an invaluable mass of hitherto inaccessible data. He must, however, organize the portion of it that can be of service for his particular school system into the finished product that can be used as an instrument of thought and judgment. Our purpose here is to show how to organize such data. We shall assume that each superintendent has a copy of the bulletin, and shall not therefore reproduce here any of the crude data.

Let us suppose that it is the superintendent of the city of Reading, Pennsylvania, who is making the study, and that his purpose is to convince his school board that the salaries paid in his city are below standards of ordinary current practice; that they are below what responsible men in most cities consider a proper level. School board members do not like to see their city lagging behind the usual practice of cities of their class. What such board members usually need is information. The finished statistical product giving this information, which the superintendent might

well prepare from the National Education Association report, is shown in the following tables and charts.

TABLE I

MEAN SALARIES OF ELEMENTARY SCHOOL TEACHERS IN 34 CITIES HAVING A POPULATION OF 50,000 TO 100,000

	City	Median Salary	Upper Quartile	Lower Quartile	Quartile Range	Relative Range
1	Hoboken, N.J.	$1,104	$1,200	$792	$408	37 per cent
2	Bayonne, N.J.	910	950	720	230	25
3	Youngstown, Ohio	800	900	700	200	25
4	DesMoines, Iowa	800	850	700	150	19
5	Springfield, Ill.	800	800	650	150	19
6	Fort Wayne, Ind.	776	800	720	80	10
7	Duluth, Minn.	750	800	650	150	20
8	Springfield, Mass.	750	800	725	75	10
9	Somerville, Mass.	750	750	750	0	0
10	New Bedford, Mass.	750	750	700	50	7
11	Lawrence, Mass.	750	750	750	0	0
12	Evansville, Ind.	750	750	600	150	20
13	Passaic, N.J.	750	850	700	150	20
14	Lynn, Mass.	700	700	700	0	0
15	Holyoke, Mass.	700	700	700	0	0
16	Canton, Ohio	700	750	425	325	46
17	Utica, N.Y.	700	700	675	25	4
18	Waterbury, Conn.	700	800	600	200	29
19	Kansas City, Kan.	684	793	540	253	37
20	Pawtucket, R.I.	684	722	532	200	29
21	Terre Haute, Ind.	680	680	660	20	3
22	Trenton, N.J.	680	840	520	320	47
23	Wichita, Kan.	675	675	585	90	13
24	Elizabeth, N.J.	675	750	505	245	36
25	East St. Louis, Ill.	650	700	550	150	23
26	St. Joseph, Mo.	607	720	513	207	34
27	Schenectady, N.Y.	600	675	500	175	29
28	Saginaw, Mich.	600	600	450	150	25
29	Wilkes-Barre, Pa.	600	700	550	150	25
30	Harrisburg, Pa.	570	641	499	142	25
31	Manchester, N.H.	550	650	450	200	36
32	South Bend, Ind.	540	702	414	288	53
33	Altoona, Pa.	540	585	495	90	17
34	Reading, Pa.	510	550	510	40	8

By reference to Table I and Chart I it is particularly easy for the school board in Reading to see at a glance the relative levels of salaries paid in each of the several cities, and to see the exceptionally low position of their city.

The quarter of cities doing the best by their teachers are paying mean annual salaries of more than $750. The quarter of cities doing second best by their teachers are paying median salaries ranging from $700 to $750. The quarter of cities that stands

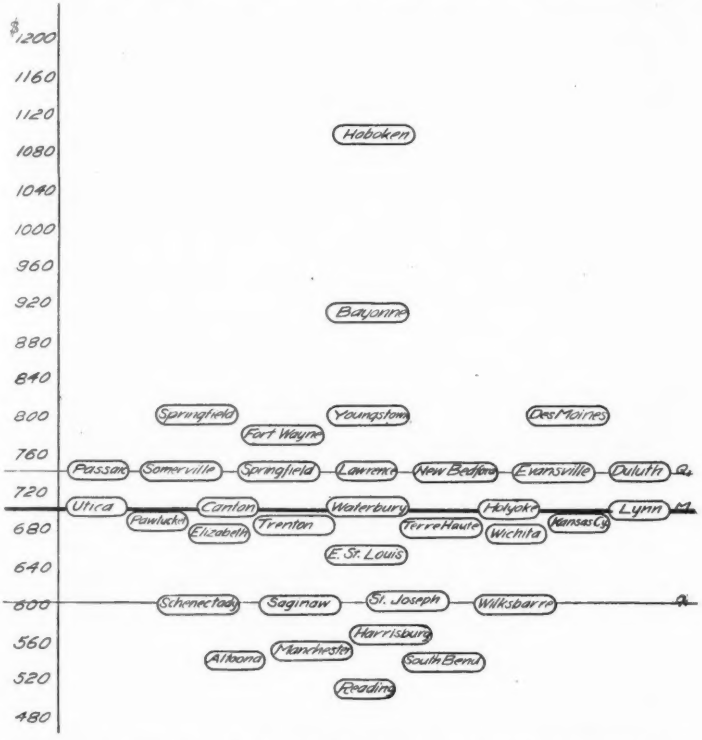


CHART I.—Showing the relative position of 34 cities of 50,000 to 100,000 population in the matter of mean annual salary paid elementary teachers. Data from U.S. Bureau of Education bulletin, *The Tangible Rewards of Teaching*, 1914.

third from the top are each paying a mean annual salary somewhere between $600 and $700. The quarter of cities paying the lowest salaries are paying less than $600. Of these the city of Reading stands at the very bottom. The school board does not exist that is not convinced by such an array of facts. They can be made to

see clearly the exceptional nature of their judgment as to what constitutes a proper salary schedule. They may plead excuse; but they cannot deny.

What should be taken as the standard of practice for cities of this class? The general standard of practice may very well be represented by the median, the measure of the city which stands in the middle of the list—the city which has an equal number of cities above it and an equal number below it. There being an even number of cities in our list, there is no single middle city, but rather two middle cities, Waterbury and Utica, each with an average salary schedule of $700. Seven hundred dollars may be taken as a measure of the general average practice of this entire group of cities. With this measure one can see at a glance whether his city stands in the more progressive half of cities or in the less progressive; whether near the general average of practice, or whether far removed from it above or below.

If one should like to use the progressive half of the cities as the basis for finding a standard of current practice, then he might take the median of the upper half of the cities. This is called the quartile, since it is the measure of that city which stands one quarter of the distance from the top. Taking only the highest half of the cities, the quartile is the measure of that city that stands at the middle of that half, with an equal number above and below it in that particular half. In this case the ninth city from the top, Somerville, Massachusetts, is at the middle of the upper half. The average salary paid in Somerville is $750. This we may regard as a standard of current practice in the most progressive half of the cities. It is represented in the chart by the upper horizontal line, and marked Q_3. It is called the third quartile.

If, however, a city finds itself very low in the scale, as for example Manchester, and wishes to employ for its immediate purposes a standard of current practice derived from that half of the cities that are most backward in their salary schedules, then one should take the lower quartile, which is the measure of the city that stands just at the middle of the lowest half. In this case it is St. Joseph, Missouri, with an average salary schedule of $607. This lower quartile is shown by the lower horizontal line, and is marked Q_1. It is called the first quartile.

If the superintendents of Reading, Altoona, South Bend, Manchester, Harrisburg, Wilkes-Barre, Saginaw, etc., should have such a chart as this, put up in neat, attractive form, hung on the wall in the school board rooms, so that, meeting after meeting, their incontestible relative situation is permitted to sink deeper and deeper into the board's consciousness, then—the human mind is so made—they might in time be impelled toward an effort at least to lift their city into the class a quarter next higher. It may well be an aid in developing a proper feeling of discontent with the inferior relative position of their city.

Likewise if the superintendents of East St. Louis, Elizabeth, Wichita, Trenton, Terre Haute, Kansas City, Kansas, etc., will prepare such a chart in attractive, effective form and hang it on the walls of their board rooms, their boards may also be impelled in time to exert themselves and get their city over the dead line of mediocrity represented by the median. They may well be impelled to get out of an inferior class into a class that is above the average, since they are so very near the line of crossing anyway.

As cities of the lowest quarter climb into the second quarter, and the cities of the second quarter climb above the line of mediocrity into the third quarter, the standards themselves will be carried upward, since they are determined by current practice. Some that are now in the third quarter may thus be passed and dropped down into the second. Thus the process may in time begin to stimulate some of them.

The superintendents in the cities of Hoboken, Bayonne, Youngstown, DesMoines, and Springfield, Illinois, will not need to use the data upon their school boards. It may be that the less their school boards know about their position on the scale of current practice the better it will be for the schools. These superintendents, however, need to draw up the same array of facts; but they will use them in another manner. They will, if their teachers are suffering from a proper measure of divine discontent, find them, as usual, dissatisfied with the salary situation in their cities, and clamoring for increases of pay. While the teachers' claims may be justified on the basis of certain kinds of facts, it will be a developer of patience and moderation in their demands to show them how high above current practice their city already

stands. The teachers can be convinced that if injustice is being done their profession on the side of remuneration, to them at least less injustice than usual is being done.

In a previous paragraph we referred to Table I and Chart I as being finished statistical products ready for the consumption of those for whom prepared. They are not quite complete, however. While showing the average position of each city upon the scale, they do not show the range of salaries over which the entire schedule is distributed. This range may be too narrow or too wide. If too narrow, injustice is being done the teachers, in that the poorer teachers are receiving altogether too nearly the same remuneration as the better teachers. Not enough reward for effort is given the better class of teachers; not enough stimulation to effort is given the poorer class of teachers. On the other hand the range of distribution may be entirely too wide. The city may be altogether too generous to a portion of the teachers who are particularly favored, and it may be altogether too parsimonious with another portion of the teaching body at the bottom of the schedule. Injustice may thus be done in just the reverse manner.

Now how can we compare the ranges of the salary schedules in different cities? The most convenient way and perhaps the best way is to take the quartile range for each city, and to compare these quartile ranges. By quartile range we mean the difference between the lower quartile and the upper quartile. We can illustrate the mode of calculation by taking the data of St. Joseph, Missouri. Salaries received in St. Joseph as shown by the bulletin are as follows:

12	teachers at	$810
45	teachers at	765
18	teachers at	720
10	teachers at	693
19	teachers at	675
16	teachers at	657
15	teachers at	630
9	teachers at	603
7	teachers at	585
9	teachers at	567
11	teachers at	540
15	teachers at	513
29	teachers at	495
19	teachers at	450

The number of teachers in St. Joseph is 234. The teacher who stands one-quarter of the distance from the lower end of the scale is the 59th in the series. The salary of this teacher is $513. This is the lower quartile for St. Joseph. The teacher who stands one-quarter of the distance from the highest salary paid is the 59th in the series from the top. The salary of this teacher is $720. This is the upper quartile for St. Joseph. The quartile range therefore for the city is from $513 to $720—or $293. This is the difference between the mean salary of the upper half of the teachers and mean salary of the lower half of the teachers.

The upper and lower quartiles and the median for each of the cities above considered are shown in columns 2 and 3 in Table I. The facts of columns 1, 2, 3, and 4 of Table I are all shown in graphic form in Chart II. This chart shows exactly the same facts as Chart I, but in addition it shows graphically the quartile range of salaries in each of the several cities. The cities are designated by numbers because of the exigencies of space. The numbers used are those which correspond to the names of the cities in Table I. (In general it is necessary to use numbers or an abbreviation to represent the name of the city in this form of chart in order to bring the whole within a reasonable space.)

Table I and Chart II show that the quartile range of teaching salaries in Holyoke is zero, and that in Hoboken it reaches the large sum of $408. In Duluth the range seems to be about midway between the two extremes. It is clear that in Holyoke and in Hoboken the standards of current practice are not being followed. If the moderate range of the majority of cities represents the range that is most just and most stimulating to the teachers, then either the two cities referred to have an exceptional range in the qualifications and merits of the teaching body, or some injustice is being done one or another of the classes of their teachers. It is clear that Holyoke and Hoboken, as well as others similarly situated at the ends of the scale, should make an examination into the workings of their salary schedules to see whether adjustment may not be desirable.

Now it is a bit difficult to read directly from Table I or Chart II the standing as regards current practice of the majority of these

cities. Really, however, each city should be able to see its standing as to quartile range, as clearly as it can see its standing in the matter of average position as shown in Chart I. This can best

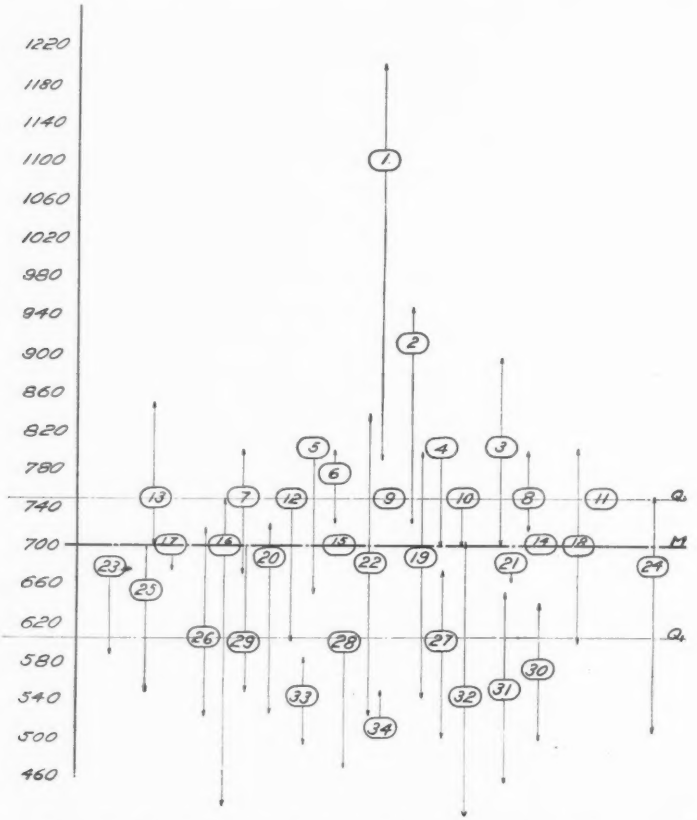


CHART II.—Showing the quartile range of elementary teachers' salaries for the 34 cities. Inclosed numbers refer to names of cities, Table I. The tips of the downward lines indicate the lower quartiles for the cities; the tips of the upward lines, the upper quartiles.

be shown by a chart built on exactly the same pattern as Chart I, using the data in the fourth column of figures in Table I, which

shows the quartile range. The quartile ranges in order of rank are shown in Table II, from which each chart might be made.

TABLE II

SHOWING ABSOLUTE QUARTILE RANGE FOR EACH OF THE 34 CITIES

Hoboken	$408	Canton	$325
Trenton	320	South Bend	288
Kansas City, Kan	253	Elizabeth	245
Bayonne	230	St. Joseph	207
Manchester	$200		
Pawtucket	$200	Waterbury	$200
Youngstown	200	Schenectady	175
Wilkes-Barre	150	Saginaw	150
East St. Louis	150		
Passaic	$150	Evansville	$150
Duluth	$150	Springfield, Ill	$150
DesMoines	150	Harrisburg	142
Altoona	90	Wichita	90
Fort Wayne	80		
Springfield, Mass	$75		
New Bedford	$50	Reading	$40
Utica	25	Terre Haute	20
Lynn	0	Somerville	0
Lawrence	0	Holyoke	0

Table II shows a median salary range to be $150. The lower quartile of the salary ranges is $75, and the upper quartile is $200.

The "zone of safety" for range in salary schedules is perhaps represented by the zone between the two quartiles; that is to say, probably the salary range of a city should not be over $200, nor under $75. This means that such cities as Evansville, Duluth, Saginaw, Schenectady, Fort Wayne, etc., are playing safe when judged by the norms of current practice. It means that in the cities of Hoboken, South Bend, Canton, Trenton, etc., the quartile salary range is entirely too wide, if the general current practice is correct. It means further that in the cities of Holyoke, Somerville, Lynn, Utica, etc., the quartile range of the salary schedule is entirely too narrow. It needs to be widened, so as to do proper justice to meritorious teachers and properly to penalize those who are not sufficiently exerting themselves.

It is possible that the figures of Table II are sufficiently accurate for practical purposes. There is, however, an element of error that in doing very careful work should be taken into account and corrected.

It is altogether probable that in a city like Hoboken, where the general salary schedule is relatively high, the absolute quartile range should rightly be considerably wider than the corresponding quartile range of a city like Reading, where the general salary schedule is less than half as high. The figures therefore in Table II ought to be in some way related to the median level of practice in each city so as to take this difference into account. The simplest mode of procedure is to represent the quartile range of a city as a percentage of the median of that city. These percentages are shown in the last column of Table I. Their relative order is shown in Table III, and graphically in Chart III.

TABLE III

SHOWING THE RELATIVE QUARTILE RANGE OF ELEMENTARY TEACHERS' SALARIES IN THE 34 CITIES

South Bend	$53	Trenton	$47
Canton	46	Kansas City, Kan	37
Hoboken	37	Elizabeth	36
Manchester	36	St. Joseph	34
Schenectady	$29		
Pawtucket	$29	Waterbury	$29
Harrisburg	25	Bayonne	25
Youngstown	25	Wilkes-Barre	25
Saginaw	25		
East St. Louis	$23	Passaic	$20
Evansville	$20	Duluth	$20
Springfield, Ill	19	DesMoines	19
Altoona	17	Wichita	13
Fort Wayne	10		
Springfield, Mass	$10		
Reading	$8	New Bedford	$7
Utica	4	Terre Haute	3
Lynn	0	Lawrence	0
Somerville	0	Holyoke	0

When the absolute quartile range is thus transformed into relative quartile range, the order of the cities is very considerably

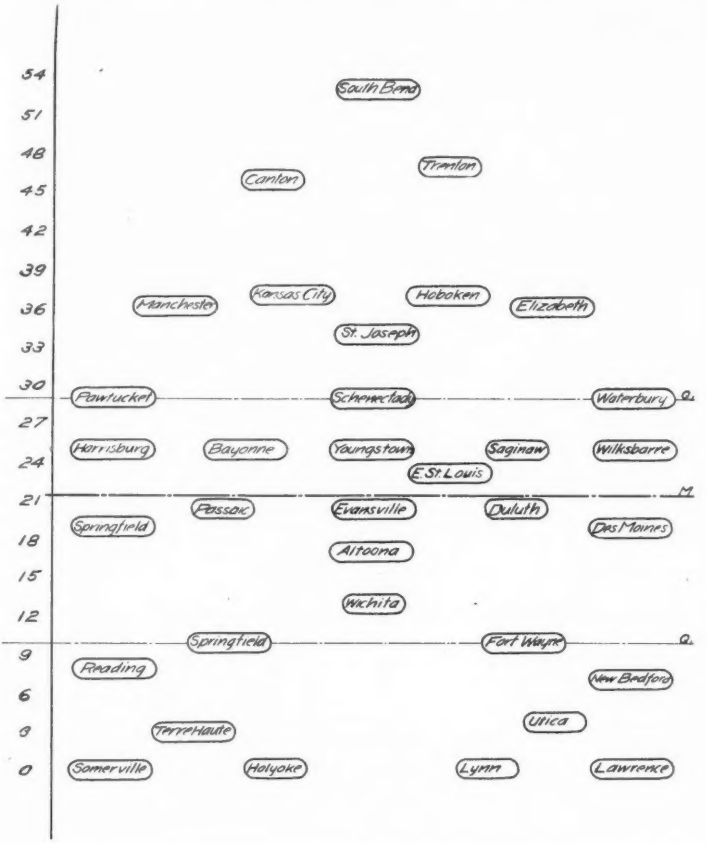


CHART III.—Shows graphically the relative quartile range of elementary teachers' salaries in the 34 cities.

changed. The cities within the "zone of safety" as judged by current practice are those in which the quartile ranges of salaries lie somewhere between 10 and 29 per cent of the medians. The

names of these cities are shown on Chart III lying between the lines that designate the lower and upper quartiles. The cities lying outside of these lines, whether above or below, clearly have something to explain to themselves. Exceptional conditions may justify them in their exceptional position. They should be fully informed of such exceptional conditions, however, before being satisfied with their positions.

CURRENT EDUCATIONAL LITERATURE IN THE PERIODICALS[1]

IRENE WARREN
Librarian, School of Education, University of Chicago

Barnes, Horace Richards. The further history of some troublesome boys. Psychol. Clinic 8:107–13. (Je. '14.)

Bateman, W. G. A child's progress in speech, with detailed vocabularies. J. of Educa. Psychol. 5:307–20. (Je. '14.)

Bean, Robert Bennett. Reform in education. Pedagog. Sem. 21:284–86. (Je. '14.)

Boring, Edwin G. The marking system in theory. Pedagog. Sem. 21:269–77. (Je. '14.)

Boyer, Philip A. Class size and school progress. Psychol. Clinic 8:82–90. (My. '14.)

Buckingham, B. R. The Courtis tests in the schools of New York City. J. of Educa. Psychol. 5:199–214. (Ap. '14.)

Burnham, William H. A health examination at school entrance. Pedagog. Sem. 21:219–41. (Je. '14.)

(The) Carnegie Foundation for the Advancement of Teaching. Science 39:780–81. (29 My. '14.)

Clark, Lotta A. Pageantry in America. English J. 3:146–53. (Mr. '14.)

Cody, Sherwin. The ideal course in English for vocational students. English J. 3:263–81. (My. '14.)

Cosulich, Gilbert. The anatomy of scholarship. Pedagog. Sem. 21:290. (Je. '14.)

Dallenbach, Karl M. The effect of practice upon visual apprehension in school children. Part I. J. of Educa. Psychol. 5:321–34. (Je. '14.)

Davis, Anne. Occupations and industries open to children between fourteen and sixteen years of age. Educa. Bi-mo. 8:377–92. (Je. '14.)

Dew, Louise E. Making cripples into workingmen. Tech. World M. 21:842–43, 936. (Ag. '14.)

Dyer, Walter A. School gardens: in helping the children the nation profits. Craftsman 26:286–91. (Je. '14.)

[1] *Abbreviations.*—Atlan., Atlantic Monthly; Educa. Bi-mo., Educational Bi-monthly; Educa. R., Educational Review; English J., English Journal; Indust. Arts M., Industrial Arts Magazine; J. of Educa. Psychol., Journal of Educational Psychology; Outl., Outlook; Pedagog. Sem., Pedagogical Seminary; Pop. Sci. Mo., Popular Science Monthly; Psychol. Clinic, Psychological Clinic; Tech. World M., Technical World Magazine.

Dyer, Walter A. Teaching country teachers to teach country life. World's Work 28:175–79. (Je. '14.)

Farrell, Elizabeth E. A study of the school inquiry report on ungraded classes. Psychol. Clinic 8:57–74; 99–106. (My. and Je. '14.)

Felter, William L. On reconstructing the curriculum in secondary schools. Educa. R. 48:37–48. (Je. '14.)

Fish, Susan Anderson. What should pupils know in English when they enter the high school? English J. 3:166–75. (Mr. '14.)

Fitzpatrick, Edward A. The second balcony of education. Educa. R. 48:49–63. (Je. '14.)

Flagg, Maurice I. Making farm life popular: what Minnesota is doing for her own youth. Craftsman 26:311–16. (Je. '14.)

Fulton, Martha J. An experiment in teaching spelling. Pedagog. Sem. 21:287–89. (Je. '14.)

Gale, Zona. What of coeducation? Atlan. 114:95–106. (Jl. '14.)

Graves, Frank Pierrepont. Is the Montessori method a fad? Pop. Sci. Mo. 84:609–14. (Je. '14.)

Gray, Roland P. The correlation of English with other subjects. English J. 3:299–302. (My. '14.)

Hall, G. Stanley. Contemporary university problems. Pedagog. Sem. 21:242–55. (Je. '14.)

Hall, G. Stanley. Some psychological aspects of teaching modern languages. Pedagog. Sem. 21:256–63. (Je. '14.)

Hubbard, James Mascarene. Education in Vermont. Atlan. 114:119–22. (Jl. '14.)

Johnson, Franklin W. Waste in elementary and secondary education. Pop. Sci. Mo. 85:40–55. (Jl. '14.)

Keyes, Helen Johnson. A one-room school. Outl. 107:205–8. (23 My. '14.)

Kline, Linus W. Some experimental evidence in regard to formal discipline. J. of Educa. Psychol. 5:259–66. (My. '14.)

Kohs, Samuel C. The Binet-Simon measuring scale for intelligence: an annotated bibliography. J. of Educa. Psychol. 5:279–90; 335–46. (My. and Je. '14.)

Kuno, Yoshi S. A classification of universities and colleges in Japan as compared with the universities of the United States. Pedagog. Sem. 21:264–68. (Je. '14.)

Lamon, Harry M. Uncle Sam and the country children. Craftsman 26:302–5. (Je. '14.)

Leavitt, Frank M. Manual training teaching as a vocation. Indust. Arts M. 1:211–12. (Je. '14.)

Lippert, Em. Some reports from Bohemia. Pedagog. Sem. 21:291–92. (Je. '14.)

Lyon, E. P. Principles of curriculum making. Science 39:661–72. (8 My. '14.)

Recent Publications

OF

The University of Chicago Press

The Weather and Climate of Chicago. (*Bulletin No. 4, Geographic Society of Chicago.*) *By Henry J. Cox, Professor of Meteorology, United States Weather Bureau, and John H. Armington, Local Forecaster, United States Weather Bureau.*

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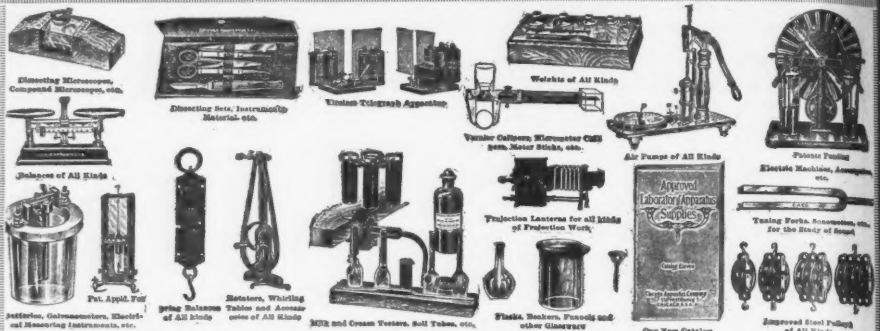
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